

Amendments

In accordance with 37 CFR §1.121, please amend the above-identified application as set forth below.

Amendments to Claims:

Please amend the claims as set forth below.

1. (Withdrawn) A method for separating disc-shaped bodies from a source body having a face and a longitudinal direction, including the steps of:
 - guiding the source body in a tunnel,
 - mounting a plurality of lamps in a planar fashion along the longitudinal direction of the source body in the tunnel,
 - illuminating the source body and the environment of the face of the source body with said plurality of lamps,
 - optically detecting a respective face of the source body with a detection device by means of the contrast between the environment of the face and the face,
 - determining the slice thickness required for a predetermined slice weight from the specific gravity of the source body and face, and
 - controlling separation of the disc-shaped body from the source body utilizing the value determined in the preceding step.
2. (Withdrawn) A method according to claim 1, the lamps are pulse-controlled and the respective face is trigger photographed by the detection device.
3. (Withdrawn) A method according to claim 1, wherein the lamps are individually automatically adjusted, including the steps of:
 - storing setting parameters for the lamps for certain ambient conditions,
 - reading out the setting parameters as a function of the respective ambient condition,

adjusting the lamps as a function of the read-out setting parameters and the respective ambient conditions.

4. (Withdrawn) A method according to claim 3, wherein the adjustment of the lamps is controlled by the detection device to eliminate reflection and increase contrast.

5. (Withdrawn) A method according to claim 1, wherein the face is additionally illuminated and the detection device evaluates surface structures of the face and the slice thickness required for a predetermined slice weight is also determined as a function of the surface structure of the face.

6. (Currently Amended) An apparatus for separating discrete bodies from a source body having a face and a longitudinal direction, the apparatus ~~including~~ comprising:
a separating device;
an advance device for advancing the source body towards the separating device;
an optical detection device for determining the face area of the source body;
a tunnel in which the source body is guided, the tunnel having an end adjacent the separating device, the tunnel having a length substantially aligned with the longitudinal direction;
a plurality of lamps for illuminating the surrounding environment of the face; ~~means for mounting~~ the lamps being mounted in the tunnel for illuminating in a planar fashion along the longitudinal direction of the source body such that the face and the surroundings environment of the face have an optical contrast,

wherein the optical detection device determines the area of the face by means of said optical contrast between the surrounding environment and the face, and the source body is advanced as a function of the ~~measured~~ detected face area as determined by the optical detection device.

7. (Withdrawn) An apparatus according to claim 6, wherein the lamps are individually adjustable.

8. (Withdrawn) An apparatus according to claim 7, wherein the direction of radiation of the lamps can be oriented individually.

9. (Withdrawn) An apparatus according to claim 7, wherein the lamps are movable by motorised means and a control system is provided for adjustment of the lamps.

10. (Withdrawn) An apparatus according to claim 9, wherein the control system has a memory for the storage of settings for the lamps for respective ambient conditions.

11. (Withdrawn) An apparatus according to claim 10, wherein the control system evaluates reflection and contrast of the detected image and the control system adjusts the lamps to minimise reflection and increase contrast.

12. (Withdrawn) An apparatus according to claim 6, wherein the lamps are controlled in pulsed fashion and the detection device is controlled in correspondingly triggered fashion.

13. (Withdrawn) An apparatus according to claim 6, wherein the lamps are potted and form a smooth surface.

14. (Original) An apparatus according to claim 6, wherein the tunnel is made of a reflective material.

15. (Previously Presented) An apparatus according to claim 6, wherein the tunnel comprises a first region in which the lamps deliver diffuse radiation with an intensity which is reduced towards the face, wherein the first region consists of a front surface of the tunnel at the face, a central region of the tunnel, front and central portions of side walls and a bottom of the tunnel.

16. (Currently Amended) An apparatus for separating discrete bodies from a source body having a face and a longitudinal direction, the apparatus comprising:

a separating device;

an advance device for advancing the source body towards the separating device;

an optical detection device for determining the face area of the source body;

a tunnel in which the source body is guided, the tunnel having an end adjacent the separating device;

a plurality of lamps for illuminating the surrounding environment of the face; the lamps being mounted in the tunnel for illuminating in a planar fashion along the longitudinal direction of the source body such that the face and the surrounding of the face have an optical contrast,

wherein the optical detection device determines the area of the face by means of said optical contrast between the surrounding environment and the face, and the source body is advanced as a function of the detected face area as determined by the optical detection device;

wherein the tunnel comprises a first region in which the lamps deliver diffuse radiation with an intensity which is reduced towards the face, wherein the first region consists of a front surface of the tunnel at the face, a central region of the tunnel, front and central portions of side walls and a bottom of the tunnel; and

~~An apparatus according to claim 15,~~ wherein the tunnel comprises a second region in which the lamps deliver radiation directed rearwards away from the face, wherein the second region is composed of the front portion of the tunnel adjacent to the face.

17. (Currently Amended) An apparatus for separating discrete bodies from a source body having a face and a longitudinal direction, the apparatus comprising:

- a separating device;
- an advance device for advancing the source body towards the separating device;
- an optical detection device for determining the face area of the source body;
- a tunnel in which the source body is guided, the tunnel having an end adjacent the separating device;
- a plurality of lamps for illuminating the surrounding environment of the face; the lamps being mounted in the tunnel for illuminating in a planar fashion along the longitudinal direction of the source body such that the face and the surrounding of the face have an optical contrast, wherein the optical detection device determines the area of the face by means of said optical contrast between the surrounding environment and the face, and the source body is advanced as a function of the detected face area as determined by the optical detection device;
- wherein the tunnel comprises a first region in which the lamps deliver diffuse radiation with an intensity which is reduced towards the face, wherein the first region consists of a front surface of the tunnel at the face, a central region of the tunnel, front and central portions of side walls and a bottom of the tunnel; and

~~An apparatus according to claim 15,~~ wherein the tunnel comprises a third region in which the lamps deliver radiation directed obliquely forwards towards the end of the tunnel adjacent the separating device, wherein the third region is composed of a rear region of the tunnel.

18. (Previously Presented) An apparatus according to claim 15, wherein the tunnel comprises a fourth region in which the lamps deliver radiation directed straight onto the advanced device provided at the bottom of the tunnel, wherein the fourth region is composed of the central region of the exposed side wall.

19. (Currently Amended) An apparatus for separating discrete bodies from a source body having a face and a longitudinal direction, the apparatus comprising:

- a separating device;
- an advance device for advancing the source body towards the separating device;

an optical detection device for determining the face area of the source body;
a tunnel in which the source body is guided, the tunnel having an end adjacent the
separating device;
a plurality of lamps for illuminating the surrounding environment of the face; the lamps
being mounted in the tunnel for illuminating in a planar fashion along the longitudinal direction
of the source body such that the face and the surrounding of the face have an optical contrast,
wherein the optical detection device determines the area of the face by means of said
optical contrast between the surrounding environment and the face, and the source body is
advanced as a function of the detected face area as determined by the optical detection device;
wherein the tunnel comprises a first region in which the lamps deliver diffuse radiation
with an intensity which is reduced towards the face, wherein the first region consists of a front
surface of the tunnel at the face, a central region of the tunnel, front and central portions of side
walls and a bottom of the tunnel; and

~~An apparatus according to claim 15,~~ wherein the side wall of a lighting frame provided for contacting the source body is slidable.

20. (Previously Presented) An apparatus for separating discrete bodies from a larger comestible body having a face and a longitudinal direction, the apparatus comprising:

- a separating device for separating the discrete bodies from the comestible body;
- a fixed lighting frame constructed and arranged to form a tunnel for guiding the comestible body in the longitudinal direction, the lighting frame having a proximate end adjacent the separating device and a distal end for receiving the comestible body;
- a plurality of lights mounted on the lighting frame for illuminating the tunnel and the comestible body so that there is an optical contrast between the face of the comestible body and a space between it and an inside of the tunnel;
- an advance device for advancing the comestible body through the lighted tunnel and towards the separating device;
- receiving means for receiving the discrete bodies separated by the separating device;

means for mounting the separating device, the lighting frame and the advance device at an incline to the receiving means;

means for detecting the optical contrast between the space and the face when at the proximate end of the lighting frame and for determining the area of the face; and

control means for causing the advance device to advance the comestible body a distance as a function of the area of the face so that discrete bodies of substantially equal volume are separated by the separating device.

21. (Previously Presented) An apparatus according to claim 20, wherein the means for detecting an optical contrast includes a camera.

22. (Previously Presented) An apparatus according to claim 20, further including a hold down device.

23. (Previously Presented) An apparatus according to claim 22, including means for illuminating the hold down device so there is no shadow and so that it appears as part of the space and not the face.

24. (Previously Presented) An apparatus according to claim 20, wherein the lighting frame, the advance device, and the separating device are inclined at approximately forty-five degrees.

25. (Previously Presented) An apparatus according to claim 20, wherein the camera is at a substantially flat angle.

26. (Previously Presented) An apparatus for separating discrete bodies from a larger comestible body having a face and a longitudinal direction, the apparatus comprising:

a fixed lighting frame constructed and arranged to form an opening for guiding the comestible body in the longitudinal direction, the lighting frame having proximate and distal

ends and an aperture at the proximate end, the opening receiving the comestible body at the distal end;

a plurality of lighting elements mounted within the lighting frame for illuminating the opening formed by the lighting frame but not the face of the comestible body;

an advance device for advancing the comestible body in the longitudinal direction through the lighting frame and towards the proximate end;

a camera positioned to optically capture the face and the opening formed by the lighting frame at the proximate end;

a detection device operatively connected to the camera for detecting an optical contrast between the face and the aperture at the proximate end of the lighting frame; and

a movable separating device located intermediate the camera and the proximate end of the lighting frame.

27. (Previously Presented) An apparatus according to claim 26, wherein the lighting frame, the advance device, and the separating device are inclined.

28. (Previously Presented) An apparatus according to claim 27, wherein the lighting frame, the advance device, and the separating device are inclined at approximately forty-five degrees.

29. (Previously Presented) An apparatus according to claim 26, wherein the camera is at a substantially flat angle.

30. (Previously Presented) An apparatus according to claim 26, further including a hold down device.

31. (Previously Presented) An apparatus for separating discrete bodies from a source body having a face and a longitudinal direction, the apparatus including:

a separating device;

an advance device engagable to advance the source body towards the separating device;

an optical detection device located at an angle non parallel to the longitudinal direction of the source body, the optical detection device being oriented to determine the face area of the source body;

a tunnel through which the source body is guided, the tunnel having an end adjacent the separating device;

a plurality of lamps mounted in the tunnel and oriented to illuminate the surrounding environment of the face in a planar fashion along the longitudinal direction of the source body such that the face and the surrounding environment of the face have an optical contrast,

wherein the optical detection device determines the area of the face by means of said optical contrast between the surrounding environment and the face, and the source body is advanced as a function of the detected face area as determined by the optical detection device.